

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Keith L. Black and Nagendra S. Ningaraj  
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October 29, 2003

**Transmittal of Information Disclosure Statement**

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Sir:

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Respectfully submitted,



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Keith L. Black and Nagendra S. Ningaraj

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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,518,499	05/21/06	Agar			
	AB	5,767,160	06/16/98	Kaesemeyer			

**OTHER REFERENCES** *(Including Author, Title, Date, Pertinent Pages, Etc.)*

AC	Armstead, W.M., <i>Contribution of kca channel activation to hypoxic cerebrovasodilation does not involve NO</i> , <u>Brain Res</u> , 799:44-48 (1998). ABSTRACT ONLY.
AD	Barna, M., et al., <i>Activation of type III nitric oxide synthase in astrocytes following a neurotropic viral infection</i> , <u>Virology</u> , 223: 331-343 (1996).
AE	Becker, E.M., et al., <i>The vasodilator-stimulated phosphoprotein (VASP): target of YC-1 and nitric oxide effects in human and rate platelets</i> , <u>J Cardiovasc Pharmacol</u> , 35(3):390-7 (2000). ABSTRACT ONLY.
AF	Boje, K.M., <i>Inhibition of nitric oxide synthase attenuates blood-brain barrier disruption during experimental meningitis</i> , <u>Brain Research</u> , 720:75-83 (1996).
AG	Brandt, L., et al., <i>Effects of topical application of calcium antagonist (nifedipine) on feline cortical pial microvasculature under normal conditions and in focal ischemia</i> , <u>Journal of Cerebral Blood Flow and Metabolism</u> , 3:44-50 (1983).
AH	Brioni, J.D., et al., <i>Activators of soluble guanylate cyclase for treatment of male erectile dysfunction</i> , <u>International Journal of Impotence Research</u> , 14:8-14 (2002).
AI	Bychkov, R., et al. <i>Calicum-activated potassium channels and nitrate-induced vasodilation in human coronary arteries</i> , <u>J Pharacol Exp Therap</u> , 285:293-8 (1998). ABSTRACT ONLY.
AJ	Chandran, S., et al., <i>Nitric oxide: concepts, current perspectives and future therapeutic implications</i> , <u>Indian Journal of Pharmacology</u> , 30:351-366 (1998).
AK	Chi, O.Z., et al. <i>Effect of inhibition of nitric oxide synthase on blood-brain barrier transport in focal cerebral ischemia</i> , <u>Pharmacologylogy</u> , 48:367-373 (1994).
AL	Cloughesy, T.F., et al., <i>Pharmacological blood-brain barrier modification for selective drug delivery</i> , <u>Journal of Neuro-Oncology</u> , 26:125-132 (1995).
AM	Feelisch, M., <i>The use of nitric oxide donors in pharmacological studies</i> , <u>Naunyn-Schmiedeberg's Arch Pharmacol</u> , 358:113-122 (1998).
AN	Fukao, M., et al., <i>Cyclic GMP-dependent protein kindase activates cloned BKCa channels expressed in mammalian cells by direct phosphorylation at serine 1072</i> , <u>J Biol Chem</u> , 274(16):10927-35 (1999).
AO	Fukumura, D., et al., <i>Role of nitric oxide in angiogenesis and microcirculation in tumors</i> , <u>Cancer and Metastasis Reviews</u> , 17:77-89 (1998).
AP	He, P., et al., <i>cGMP modulates basal and activated microvessel permeability independently of [Ca2+]i</i> , <u>Am J Physiol</u> , 274:H1865-74 (1998). ABSTRACT ONLY.
AQ	Herrera, G.M., et al., <i>Maintained vasodilatory response to cromakalim after inhibition of nitric oxide synthesis</i> , <u>J Cardiovasc Pharmacol</u> , 31:921-9 (1998). ABSTRACT ONLY

EXAMINER

DATE CONSIDERED

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<b>OTHER REFERENCES</b> <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>			
AR	Holschermann, H., et al., <i>Dual role of cGMP in modulation of macromolecule permeability of aortic endothelial cells</i> , <u>Am J Physiol</u> , 272:H91-8 (1997). ABSTRACT ONLY.		
AS	Hongli, X., et al., <i>Opening blood-brain-barrier by intracarotid infusion of papaverine in treatment of malignant cerebral glioma</i> , <u>Chinese Medical Journal</u> , 111(8):751-753 (1998).		
AT	Hurst, R.D., et al., <i>Nitric oxide-induced perturbations in a cell culture model of the blood-brain barrier</i> , <u>Journal of Cellular Physiology</u> , 167:89-94 (1996).		
AU	Inamura, T., et al., <i>Intracarotid histamine infusion increases blood tumour permeability in RG2 glioma</i> , <u>Neurological Research</u> , 16:125-128 (1994).		
AV	Inamura, T., et al., <i>Intracarotid infusion of RMP-7, a bradykinin analog: a method for selective drug delivery to brain tumors</i> , <u>J Neurosurg</u> , 81:752-758 (1994).		
AW	Janigro, D., et al., <i>Regulation of blood-brain barrier endothelial cells by nitric oxide</i> , <u>Circulation Research</u> , 75:528-528 (1994).		
AX	Kimura, M., et al., <i>Responses of human basilar and other isolated arteries to novel nitric oxide donors</i> , <u>J Cardiovasc Pharmacol</u> , 32: 695-701 (1998). ABSTRACT ONLY.		
AY	Koesling, D., <i>Modulators of soluble guanylyl cyclase</i> , <u>Naunyn-Schmiedeberg's Arch Pharmacol</u> , 358:123-126 (1998).		
AZ	Liu, Y., et al., <i>Repeated, short-term ischemia augments bradykinin-mediated opening of the blood-tumor barrier in rats with RG2 glioma</i> , <u>Neurological Research</u> , 23:631-639 (2001).		
BA	Lohse, M.J., et al., <i>Pharmacology of NO:cGMP signal transduction</i> , <u>Naunyn-Schmiedeberg's Arch Pharmacol</u> , 358:111-112 (1998).		
BB	Matskado, T., et al., <i>Selective Increase in Blood Tumor Permeability by Calcium Antagonists in Transplanted Brain Tumors</i> , <u>Acta Neurochir</u> , 60: 403-405 (1994).		
BC	Mayer, B., et al., <i>Nitric oxide synthases: catalytic function and progress toward selective inhibition</i> , <u>Naunyn-Schmiedeberg's Arch Pharmacol</u> , 358:127-133 (1998).		
BD	Mayhan, W.G., <i>Role of nitric oxide in histamine-induced increases in permeability of the blood-brain barrier</i> , <u>Brain Research</u> , 743:70-76 (1996).		
BE	Mayhan, W.G., et al., <i>Glutamate-induced disruption of the blood-brain barrier in rats</i> , <u>Stroke</u> , 27:965-970 (1996).		
BF	Nakano, S., et al., <i>Increased brain microvessel permeability after intracarotid bradykinin infusion is mediated by nitric oxide</i> , <u>Cancer Research</u> , 56:4027-4031 (1996).		
BG	Ningaraj, N.S., et al., <i>Role of ATP-sensitive K<sup>+</sup> channels in blood-brain tumor barrier permeability</i> , <u>Congress of Neurological Surgeons Annual Meeting</u> , 50 <sup>th</sup> Anniversary Celebration, September 23-28, 2000, Henry B. Gonzalez Convention Center, San Antonio, Texas, ABSTRACT No. 4309, p. 215.		
EXAMINER		DATE CONSIDERED	
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BH	Ningaraj, N.S., et al., Ca <sup>2+</sup> -dependent K <sup>+</sup> channels are a key regulatory of blood-brain tumor barrier permeability, <u>Congress of Neurological Surgeons Annual Meeting</u> , 50 <sup>th</sup> Anniversary Celebration, September 23-28, 2000, Henry B. Gonzalez Convention Center, San Antonio, Texas, ABSTRACT No.428, p. 219.
BI	Ningaraj, N.S., et al., <i>Nitric oxide donors increase blood-brain tumor barrier permeability via Kca channels</i> , <u>Society for Neuroscience</u> , 30 <sup>th</sup> Annual Meeting, New Orleans, LA, November 4-9, 2000, 26 Part 1, p. 338, ABSTRACT No. 126.8.
BJ	Pardrige, W., et al., <i>Blood -brain barrier and new approaches to drug delivery</i> , <u>West J Med</u> , 156:281-286 (1992).
BK	Robertson, B.E., et al., <i>cGMP-dependent protein kinase activates Ca-activated K channels in cerebral artery smooth muscle cells</i> , <u>Am J Physiol</u> , 265:C299-C303 (1993).
BL	Sobey, C.G., et al., <i>Inhibitory effect of 4-aminopyridine on responses of the basilar artery to nitric oxide</i> , <u>Br J Pharmacol</u> , 126:1437-43 (1999). ABSTRACT ONLY.
BM	Salom, J.B., et al., <i>Relaxant effects of sodium nitroprusside and NONOates in rabbit basilar artery</i> , <u>Pharmacology</u> , 57:79-97 (1998). ABSTRACT ONLY.
BN	Salom, J.B., et al., <i>Comparative relaxant effects of the NO donors sodium nitroprusside, DEA/NO and SPER/NO in rabbit carotid arteries</i> , <u>Gen Pharmacol</u> , 32:75-59 (1999). ABSTRACT ONLY.
BO	Salom, J.B., et al., <i>Relaxant effects of sodium nitroprusside and NONates in goat middle cerebral artery: delayed impairment of global ischemia-reperfusion</i> , <u>Nitric Oxide</u> , 3:85-93 (1999). ABSTRACT ONLY.
BP	Shukla, A., et al., <i>Nitric oxide-dependent blood-brain barrier permeability alteration in the rat brain</i> , <u>Experientia</u> , 52:136-140 (1996).
BQ	Smolenski, A., et al., <i>Functional analysis of cGMP-dependent protein kinases I and II as mediators of NO/cGMP effects</i> , <u>Naunyn-Schmiedeberg's Arch Pharmacol</u> , 358:134-138.
BR	Sugita, M., et al., <i>Cyclic GMP-specific phosphodiesterase inhibition and intracarotid bradykinin infusion enhances permeability in brain tumors</i> , <u>Cancer Research</u> , 58:914-920 (1998).
BS	Takayasu, M., et al., <i>Effects of calcium antagonists on intracerebral penetrating arterioles in rats</i> , <u>J Neurosurg</u> , 69:104-109 (1988).
BT	Uchida, M., et al., <i>Overexpression of bradykinin type 2 receptors on glioma cells enhances bradykinin-mediated blood-brain tumor varrier permeability increase</i> , <u>Neurological Research</u> , 24:739-745

EXAMINER	DATE CONSIDERED
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BU	Uchida, M., et al., <i>Cyclic GMP-dependent blood-brain tumor barrier permeability is not mediated by cyclic GMP-dependent protein kinase</i> , Congress of Neurological Surgeons Annual Meeting, 50 <sup>th</sup> Anniversary Celebration, September 23-28, 2000, Henry B. Gonzalez Convention center, San Antonio, Texas, ABSTRACT No. 440, p. 220.
BV	Vodovotz, Y., et al., <i>Regulation of transforming growth factor beta 1 by nitric oxide</i> , <i>Cancer Res</i> , 59:2142-9 (1999). ABSTRACT ONLY.
BW	Yukabu, M.A., <i>Hematoma-induced enhanced cerebral vasoconstriction to leukotriene C4 and endothelin-1 piglets: role of prostanoids</i> , <i>Pediatr Res</i> , 38:119-23 (1995). ABSTRACT ONLY.
BX	Tocris Web Page, <a href="http://www.tocris.com/cat/nodonorstxt.html">http://www.tocris.com/cat/nodonorstxt.html</a> No Donors/Precursors, pp.1-2, Downloaded 5/31/00.
BY	Sigma-Aldrich Web page, <a href="http://vsearch.sial.com/search%20cgi/s97-cgi">http://vsearch.sial.com/search 97cgi/s97-cgi</a> , p.1, downloaded 5/31/00.

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